ABSTRACT

A method is disclosed for capturing one or more target simple sequence repeats (SSRs) utilizing locked nucleic acids and strand displacement stategies. In this method, one or more modified oligonucleotide conjugates are selected in which the conjugates are constructed from at least one locked nucleic acid ("LNA") and a linking molecule, hereinafter referred to as "LNA conjugates". When incubated with a sample of nucleic acids, these LNA conjugates capture SSRs by selectively binding to complementary sequences of DNA or RNA, which may be either single or double stranded. Once bound, the resulting complexes constitute hybridized duplexes containing both a targeted simple sequence repeat portion and a LNA conjugate portion. The captured SSRs are separated from the sample by using a linking source that binds to the linking molecule of the hybridized duplex and extracting the linking source with the bound duplex from the sample. In a preferred embodiment, the SSRs may be detached from the LNA conjugates by treatment with an alkaline buffer.